

Lithium Oxide in a Weathered Pegmatite in Nyanza District, Rwanda: A Preliminary Data

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The global depletion of fossil fuel resources, along with their potential environmental concerns, has prompted the search for alternative clean energy resources for future industrial development. The use of electric cars is growing and creates major concerns for future lithium demand and lithium. In Rwanda, Li-bearing pegmatites are distributed in part of the Nyanza District. Although Li-bearing pegmatite is distributed in that location, the quality of lithium for industrial applications is still undiscovered. As a result, a preliminary assessment of lithium deposits was conducted along the core samples collected in 2024. The results reveal 520 ppm to 730 ppm, 470 ppm to 900 ppm, and 190 ppm to 580 ppm for boreholes 1, 2, and 3, respectively. The concentration of Li oxide is not evenly distributed along the core and the results highlight that the moderately weathered pegmatite has a higher concentration of Li oxide compared to the highly weathered pegmatite. Further research will develop a model to evaluate the quantity and quality of lithium for future mining development decision-making.